OHIO VALLEY ELECTRIC CORPORATION

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May 24, 2000

Mr. Bill Grimley
U.S. Environmental Protection Agency
Emissions, Measurement Center
Office of Air Quality Planning & Standards
4930 Old Page Road
Durham, NC 27709

Dear Mr. Grimley:

Re: Speciated Mercury Emissions Testing
Indiana-Kentucky Electric Corporation -
Clifty Creek Station

On March 11, 1999, U.S. EPA requested under Section 114 of the Clean Air Act that Speciated Mercury Emissions Testing be conducted at the Indiana-Kentucky Electric Corporation's Clifty Creek Station, Unit 6. In response to that request, Mostardi-Platt Associates, Inc. in association with the Electric Power Research Institute conducted the testing on Unit 6 at the Clifty Creek Station on November 2-3, 1999. Enclosed are three (3) copies of the final test report.

If you have any questions, please contact Erik Sims at (740)289-7267.

Sincerely,

Donald T. Fulkerson
Environmental Affairs Director

DTF:men

Enclosure (3)

SPECIATED MERCURY EMISSIONS TESTING

Performed For
ELECTRIC POWER RESEARCH INSTITUTE

At The
Indiana-Kentucky Electric Corporation
Clifty Creek Power Plant
Unit 6
Precipitator Inlet and Outlet
Madison, Indiana

November 2 and 3, 1999

Mostardi Platt

Mostardi-Platt Associates, Inc.
A Full-Service
Environmental Consulting
Company

945 Oaklawn Avenue
Elmhurst, Illinois 60126-1012
Phone 630-993-9000
Facsimile 630-993-9017

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Madison, Indiana
November 2 and 3, 1999

MOSTARDI PLATT PROJECT 94403
DATE SUBMITTED: APRIL 25, 2000

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CERTIFICATION SHEET

Having supervised and worked on the test program described in this report, and having written this report, I hereby certify the data, information, and results in this report to be accurate and true according to the methods and procedures used.

Data collected under the supervision of others is included in this report and is presumed to have been gathered in accordance with recognized standards.

MOSTARDI-PLATT ASSOCIATES, INC.

James R. Platt
Vice President, Emissions Services

Reviewed by:

Frank H. Jarke
Manager, Analytical and Quality Assurance

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1.0 INTRODUCTION

1.1 Summary of Test Program

The United States Environmental Protection Agency (USEPA), is using its authority under section 114 of the Clean Air Act, as amended, to require that selected coal-fired utility steam generating units provide certain information that will allow the USEPA to calculate the annual mercury emissions from each unit. This information will assist the USEPA Administrator in determining whether it is appropriate and necessary to regulate emissions of Hazardous Air Pollutants (HAPs) from electric utility steam generating units. The Emission Measurement Branch (EMB) of the Office of Air Quality Planning and Standards (OAQPS) oversees the emission measurement activities. MOSTARDI-PLATT ASSOCIATES, INC. (Mostardi Platt) conducted the mercury emission measurements.

The USEPA selected Indiana-Kentucky Electric Corporation in Madison, Indiana to be one of seventy-eight coal-fired utility steam generating units to conduct mercury emissions measurements. Testing was performed at Unit 6 on November 2 and 3, 1999, and was the only tested unit at this facility. Simultaneous measurements were conducted at the Precipitator Inlet and Outlet locations. Mercury emissions were speciated into elemental, oxidized and particle-bound mercury using the Ontario-Hydro test method. Fuel samples were also collected concurrently with Ontario-Hydro samples in order to determine fuel mercury content.

1.2 Key Personnel

The key personnel who coordinated the test program and their telephone numbers are:

- Mostardi Platt Vice President, James Platt 630-993-9000
- Indiana-Kentucky Electric
  Project Coordinator, Shannon Gatke 812-265-8763
- Electric Power Research Institute
  Project Manager, Paul Chu 650-855-2812

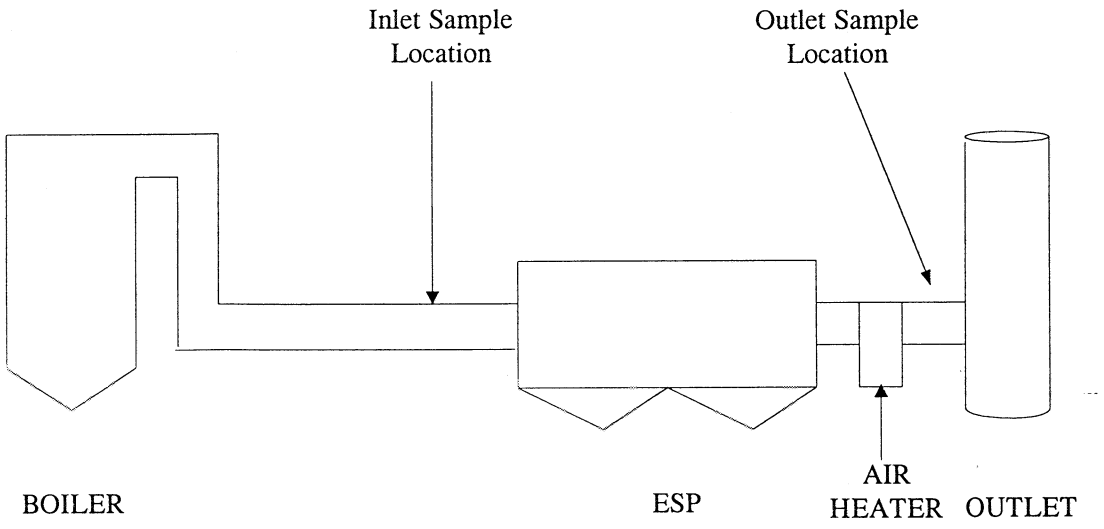
2.0 PLANT AND SAMPLING LOCATION DESCRIPTIONS

2.1 Process Description

Clifty Creek Unit 6 is a pulverized coal-fired, balanced draft boiler with a name plate rating of 217 MW. Figure 2-1 shows a schematic of the boiler and pollution control equipment, including sample points.

The steam is converted into mechanical energy by flowing through a turbine (generator) which produces electrical power. The unit was operated at or near full load during the tests. Fuel type, boiler operation and control device operation were maintained at normal operating conditions.

Figure 2-1 Schematic of the Boiler and Pollution Control Equipment



The following is a list of operating components for this unit:

- Babcock & Wilcox pulverized coal-fired, wet bottom boiler
- 217 MW gross capacity (Name plate rating)
- Fuel (Blend):
  - Subbituminous, Powder River Basin Western Coal (65%), 0.31% Sulfur
  - Bituminous, Pocahantus Eastern Coal (26.25%), 0.70% Sulfur
  - Bituminous, Waterloo Eastern Coal (8.75%), 4.44% Sulfur
- SO_2 control: No mechanical controls; SO_2 emissions controlled by burning of compliance coal
- NO_X control: Over Fire Air
- Hot-Side Electrostatic Precipitator

2.2 Control Equipment Description

Particulate emissions from the boiler are controlled by a Joy-Western hot-side electrostatic precipitator with an estimated collection efficiency of 99.4%. The precipitator has two (2) boxes with four (4) chambers each and seven (7) fields.

The flue gas at the inlet was approximately 720°F. At the outlet, the gas temperature was approximately 335°F and contained approximately 9 percent (9%) moisture.

2.3 Flue Gas Sampling Locations

2.3.1 Inlet Location

Inlet samples were collected at the Precipitator Inlet. A schematic and cross section of the inlet location are shown in Figure 2-2. This location does meet the requirements of USEPA Method 1. The duct dimensions are 20 feet by 20 feet.

Due to the potential difficulty with sampling the existing inlet test ports, new ports were installed on the top of the duct. Additionally, a probe support system was erected to allow sampling to be performed vertically down into the duct. Sampling was performed utilizing a 12-foot probe.

2.3.2 Outlet Location

Mercury sampling did not occur at the stack location because it is a common exhaust for Units 4, 5 and 6.

Outlet samples were collected at the stack breeching sample ports. The duct dimension is 15 feet wide by 20 feet deep. Five (5) test ports exist at this location, of which two (2) ports are obstructed. Only the three (3) center ports were traversed for gas volumetric flow (20-foot probe) and mercury (12-foot probe) concentration. A probe support system was also erected. A schematic and cross section of the stack location is shown in Figure 2-3. This location does not meet the requirements of USEPA Method 1. The inlet flow rates were used to calculate the outlet emission rates.

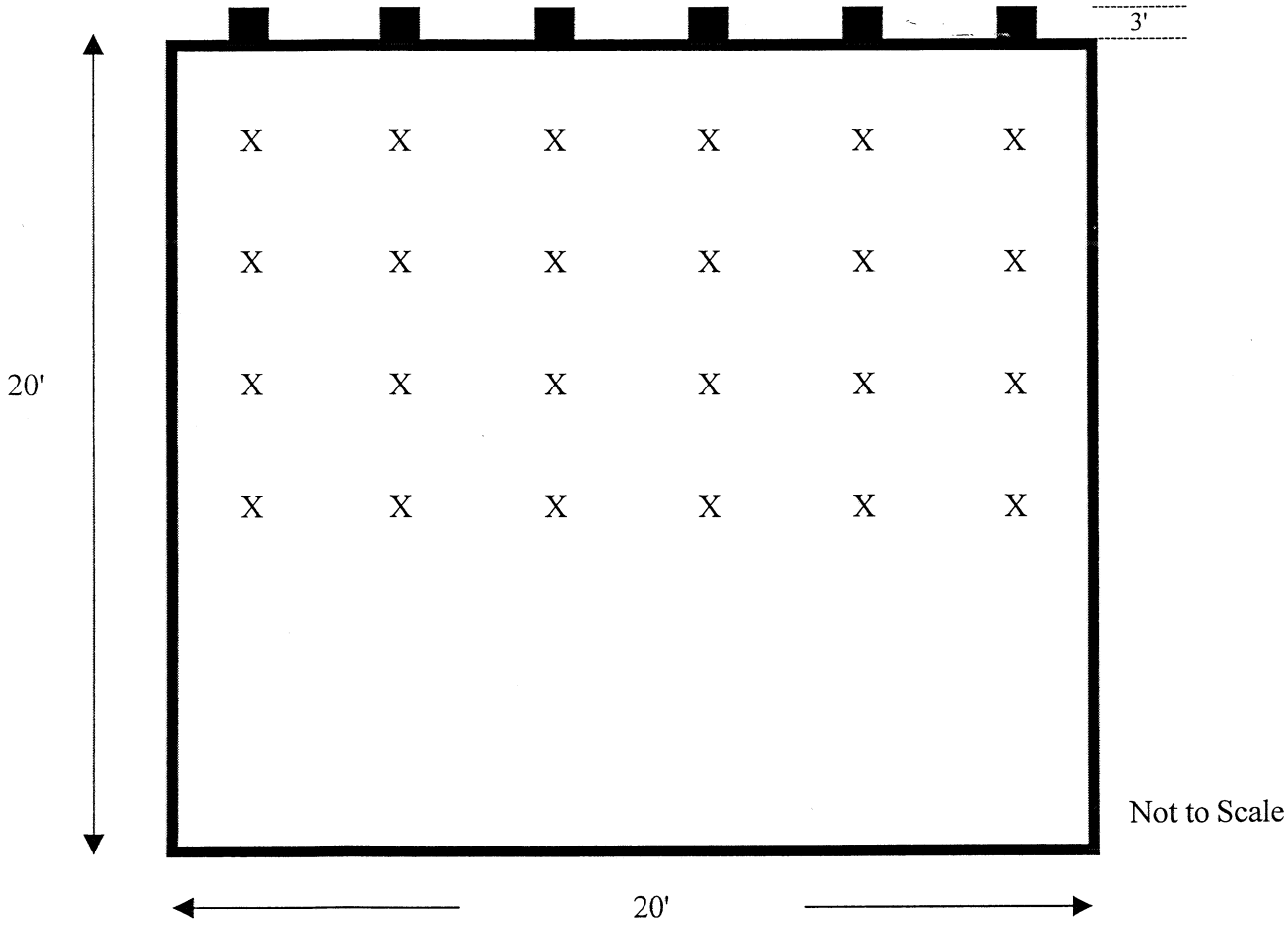
The flue gas at the outlet was above the method specification of a minimum filtration temperature of 120°C. Therefore, in stack filtration per Method 17 was used.

2.4 Fuel Sampling Location

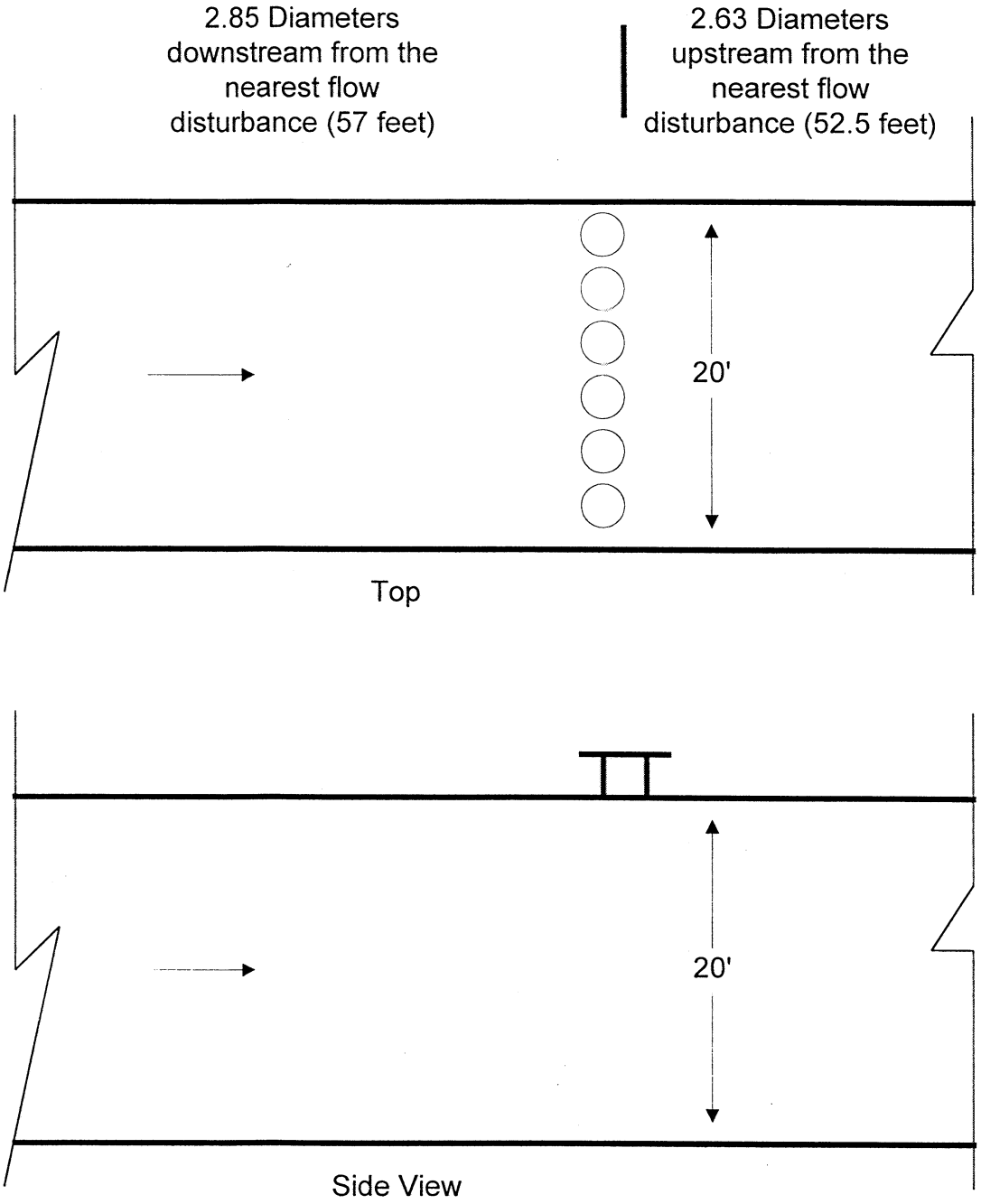
Fuel samples were collected at the fuel feeders to each individual pulverizing mill. One sample was collected from each feeder during each test run, and the feeder samples collected during a test run were composited prior to analysis. The Mostardi-Platt Associates, Inc. test crew supervisor assisted plant personnel with the collection of fuel samples.

Figure 2-2 Schematic of the Clifty Creek Power Plant Inlet Sampling Location

Equal Area Traverse For Rectangular Ducts (Inlet)



Job:	Indiana-Kentucky Electric Corporation Clifty Creek Power Plant		
Date:	November 2 and 3, 1999	Area:	400.00 ft^2
Unit No:	Unit 6	No. Test Ports:	6 - 6"
Length:	20 Feet	Tests Points per Port:	4
Width:	20 Feet	Distance Between Ports:	3 Feet
Duct No:	Inlet	Distance Between Points:	3 Feet



D = Equivalent Diameter

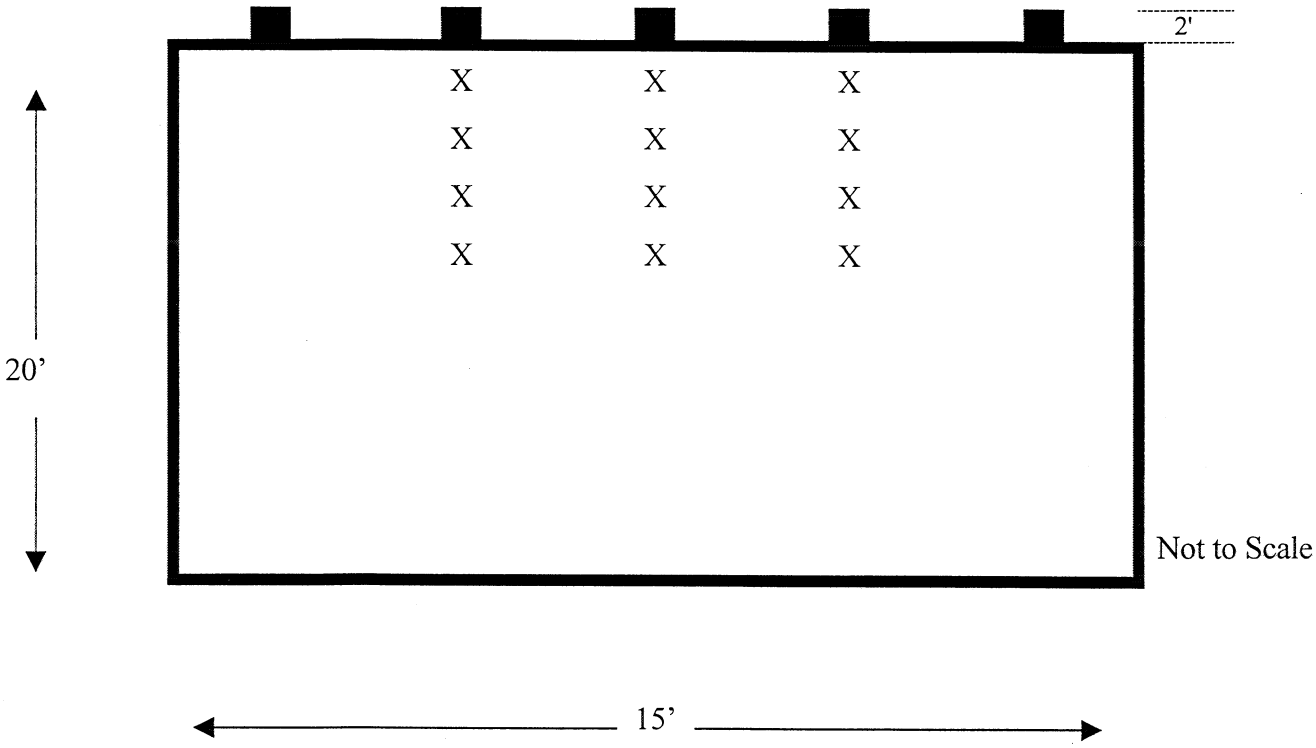
$$D = \frac{2 \times L \times W}{L + W}$$

$$D = \frac{2 \times 20 \times 20}{20 + 20}$$

$$D = 20$$

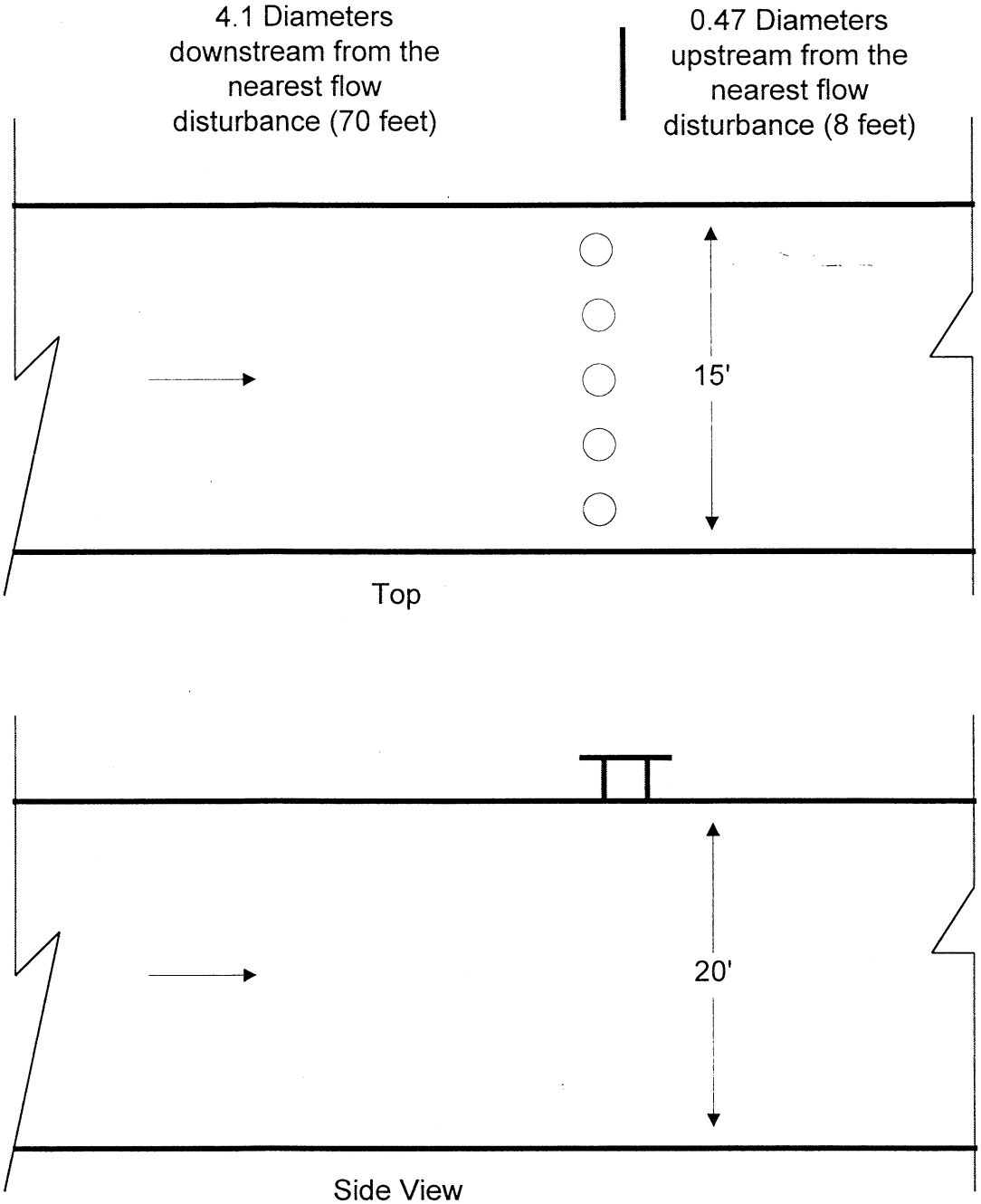
Figure 2-3 Schematic of the Clifty Creek Power Plant Outlet Sampling Location

Equal Area Traverse For Rectangular Ducts (Outlet)



Job:	Indiana-Kentucky Electric Corporation Clifty Creek Power Plant		
Date:	November 2 and 3, 1999	Area:	300.00 ft^2
Unit No:	6	No. Test Ports:	5* - 6"
Length:	20 Feet	Tests Points per Port:	4
Width:	15 Feet	Distance Between Ports:	3 Feet
Duct No:	Outlet	Distance Between Points:	3 Feet

* Five (5) existing test ports, the two (2) outside ports were obstructed. The three (3) center ports were traversed for flow (20 foot probe) and concentration (12-foot sample probe).



D = Equivalent Diameter

$$D = \frac{2 \times L \times W}{L + W}$$

$$D = \frac{2 \times 20 \times 15}{20 + 15}$$

$$D = 17.1$$

3.0 SUMMARY AND DISCUSSION OF TEST RESULTS

3.1 Objectives and Test Matrix

The purpose of the test program was to quantify mercury emissions from this unit. This information will assist the USEPA Administrator in determining whether it is appropriate and necessary to regulate emissions of Hazardous Air Pollutants (HAPs) from electric utility steam generating units. The specific objectives, in order of priority were:

- Compare mass flow rates of mercury at the three sampling locations (fuel, inlet to and outlet from the precipitator).
- Measure speciated mercury emissions at the outlet.
- Measure speciated mercury concentrations at the inlet of the last air pollution control device.
- Measure mercury and chlorine content from the fuel being used during the testing.
- Measure the oxygen and carbon dioxide concentrations at the inlet and the outlet.
- Measure the volumetric gas flow at the inlet and the outlet.
- Measure the moisture content of the flue gas at the inlet and the outlet.
- Provide the above information to the USEPA for use in establishing mercury emission factors for this type of unit.

The test matrix is presented in Table 3-1. The table shows the testing performed at each location, methodologies employed and responsible organization.

Table 3-1
TEST MATRIX FOR THE INDIANA-KENTUCKY ELECTRIC CORPORATION - CLIFTY CREEK POWER PLANT

Sampling Location	No. of Runs	Parameters	Sampling Method	Sample Run Time (min)	Analytical Method	Analytical Laboratory
Outlet	3	Speciated Hg	Ontario Hydro	120	EPA SW846 7470	TEI
Outlet	3	Moisture	EPA 4	120	Gravimetric	Mostardi Platt
Outlet	3	Flow	EPA 1 & 2	120	Pitot Traverse	Mostardi Platt
Outlet	3	O_2/CO_2	EPA 3	120	Orsat	Mostardi Platt
Inlet	3	Speciated Hg	Ontario Hydro	120	EPA SW846 7470	TEI
Inlet	3	Moisture	EPA 4	120	Gravimetric	Mostardi Platt
Inlet	3	Flow	EPA 1 & 2	120	Pitot Traverse	Mostardi Platt
Inlet	3	O_2/CO_2	EPA 3	120	Orsat	Mostardi Platt
Fuel Feeders	3	Hg, Cl in Fuel	Grab	1 Sample Per Feeder Per Run	ASTM D3684 (Hg) ASTM D4208 (Cl)	CTE

3.2 Field Test Changes and Problems

There were no field changes or problems encountered during this test program.

3.3 Presentation of Results

3.3.1 Mercury Mass Flow Rates

The mass flow rates of mercury determined at each sample location are presented in Table 3-2.

Table 3-2
SUMMARY OF RESULTS

Sample Location	Elemental Mercury (lb/hr)	Oxidized Mercury (lb/hr)	Particle-Bound Mercury (lb/hr)	Total Mercury (lb/hr)
Fuel				
Run 1				0.01253
Run 2				0.01228
Run 3				0.01308
Average				**0.01263**
Precipitator Inlet				
Run 1	0.01745	0.00366	0.00062	0.02173
Run 2	0.01785	0.00573	0.00003	0.02361
Run 3	0.01846	0.00549	0.00001	0.02396
Average	**0.01792**	**0.00496**	**0.00022***	**0.02310**
Precipitator Outlet				
Run 1	0.00640	0.00494	0.00095	0.01229
Run 2	0.00747	0.00704	0.00000	0.01451
Run 3	0.00531**	0.00767	0.00009	0.01308
Average	**0.00639**	**0.00655**	**0.00046***	**0.01329**

* The variability of the three tests from the average is greater than 30% and therefore this data must be qualified. The cause of this difference is not known.

** Qualified data; See Section 5.1

3.3.2 Comparison of Volumetric Flow Rate

Volumetric flow rate is a critical factor in calculating mass flow rates. Ideally, the volumetric flow rate (corrected to standard pressure and temperature) measured at the inlet to the control device should be the same as that measured at the stack, which should be the same as that measured by the CEMS. A comparison of the flow rates of the two test locations can be seen in Table 3-3.

Table 3-3 COMPARISON OF VOLUMETRIC FLOW RATE DATA							
	Inlet			Outlet			CEMS*
Run No.	KACFM	KSCFM	KDSCFM	KACFM	KSCFM	KDSCFM	KSCFM
Run 1	1,172.8	499.2	439.2	1,004.6	646.5	582.4	493.1
Run 2	1,194.4	506.7	447.8	874.2	567.2	518.2	499.8
Run 3	1,186.0	505.2	447.5	934.8	606.1	557.5	494.1
Average	1,184.3	503.7	444.9	937.9	606.6	552.7	495.7

*CEM value has been adjusted to represent one unit.

The measured volumetric flow rate (KSCFM) at the inlet was approximately 2% higher than that the CEMS and the outlet was approximately 18% higher than the CEMS. Per the "Electric Utility Steam Generating Unit Mercury Emissions" web page, no modifications to the sampling procedure will be made, since "...(a) mercury is primarily in the gaseous phase and is not impacted by uncertainties in the gas flow and isokinetic sampling rate, and (b) stratification of mercury species is not expected."

3.3.3 Individual Run Results

A detailed summary of results for each sample run at the inlet and outlet test locations are presented in Tables 3-4 and 3-5, respectively.

3.3.4 Process Operating Data

The process operating data collected during the tests is included in Appendix A. A summary of the coal usage and mass emission rate of mercury available from coal are presented in Table 3-6.

Table 3-4
PRECIPITATOR INLET INDIVIDUAL RUN RESULTS

Test Run Number:	1	2	3	Average
Source Condition		Normal		
Fuel Factor, dscf/10^6 Btu	9845	9832	9835	
Date	11/2/99	11/3/99	11/3/99	
Start Time	12:30	8:00	11:15	
End Time	14:41	10:10	13:23	
Elemental Mercury:				
HNO_3-H_2O_2, ug detected	0.756	1.020	1.130	0.969
H_2SO_4-$KMnO_4$, ug detected	11.896	11.696	11.796	11.796
Reported, ug	12.652	12.716	12.926	12.765
ug/dscm	10.61	10.64	11.01	10.75
lb/hr	0.01745	0.01785	0.01846	0.01792
lb/10^{12} Btu	8.01	7.98	8.22	8.07
Oxidized Mercury:				
KCl, ug detected	2.656	4.086	3.846	3.529
Reported, ug	2.656	4.086	3.846	3.529
ug/dscm	2.23	3.42	3.28	2.97
lb/hr	0.00366	0.00573	0.00549	0.00496
lb/10^{12} Btu	1.68	2.56	2.44	2.23
Particle-bound Mercury:				
Filter, ug detected	0.452	0.018	<0.010	<0.160
HNO_3, ug detected	ND <0.004	ND <0.004	ND <0.004	ND <0.004
Reported, ug	0.452	0.018	0.005	0.158
ug/dscm	0.38	0.02	0.00	0.13
lb/hr	0.00062	0.00003	0.00001	0.00022
lb/10^{12} Btu	0.29	0.01	0.00	0.10
Total Inlet Speciated Mercury:				
ug/dscm	13.21	14.07	14.29	13.86
lb/hr	0.02173	0.02361	0.02396	0.02310
lb/10^{12} Btu	9.98	10.56	10.66	10.40
Average Gas Volumetric Flow Rate:				
@ Flue Conditions, acfm	1,172,756	1,194,427	1,185,969	1,184,384
@ Standard Conditions, dscfm	439,210	447,830	447,509	444,850
Average Gas Temperature, °F	719.8	724.8	720.0	721.5
Average Gas Velocity, ft/sec	48.86	49.77	49.42	49.35
Flue Gas Moisture, percent by volume	12.01	11.62	11.42	11.68
Average Flue Pressure, in. Hg	28.46	28.48	28.48	
Barometric Pressure, in. Hg	29.28	29.32	29.32	
Average %CO_2 by volume, dry basis	14.8	15.0	15.0	14.9
Average %O_2 by volume, dry basis	3.9	3.8	3.7	3.8
% Excess Air	22.21	21.55	20.83	21.53
Dry Molecular Wt. of Gas, lb/lb-mole	30.524	30.552	30.548	
Gas Sample Volume, dscf	42.121	42.203	41.447	
Isokinetic Variance	104.4	102.6	100.8	

Laboratory Analysis can be found in Appendix F.

Table 3-5
PRECIPITATOR OUTLET INDIVIDUAL RUN RESULTS

Test Run Number:	1	2	3	Average
Source Condition		Normal		
Fuel Factor, dscf/10^6 Btu	9845	9832	9835	
Date	11/2/99	11/3/99	11/3/99	
Start Time	13:00	8:00	11:15	
End Time	15:15	10:10	13:25	
Elemental Mercury:				
HNO_3-H_2O_2, ug detected	0.894	0.769	0.629	0.764
H_2SO_4-$KMnO_4$, ug detected	7.556	7.736	5.866	7.053
Reported, ug	8.450	8.505	6.495	7.817
ug/dscm	3.89	4.45	3.17	3.84
lb/hr	0.00849	0.00864	0.00662	0.00792
lb/hr (based on Inlet dscfm)	0.00640	0.00747	0.00531	0.00639
lb/10^{12} Btu	3.35	3.83	2.73	3.31
Oxidized Mercury:				
KCl, ug detected	6.516	8.026	9.376	7.973
Reported, ug	6.516	8.026	9.376	7.973
ug/dscm	3.00	4.20	4.58	3.93
lb/hr	0.00655	0.00815	0.00956	0.00808
lb/hr (based on Inlet dscfm)	0.00494	0.00704	0.00767	0.00655
lb/10^{12} Btu	2.59	3.62	3.94	3.38
Particle-bound Mercury:				
Filter, ug detected	1.257	<0.010	0.116	<0.461
HNO_3, ug detected	ND <0.003	ND <0.003	ND <0.003	ND <0.003
Reported, ug	1.257	0.005	0.116	0.459
ug/dscm	0.58	0.00	0.06	0.21
lb/hr	0.00126	0.00001	0.00012	0.00046
lb/hr (based on Inlet dscfm)	0.00095	0.00000	0.00009	0.00035
lb/10^{12} Btu	0.50	0.00	0.05	0.18
Total Outlet Speciated Mercury:				
ug/dscm	7.47	8.65	7.80	7.98
lb/hr	0.01630	0.01679	0.01629	0.01646
lb/hr (based on Inlet dscfm)	0.01229	0.01451	0.01308	0.01329
lb/10^{12} Btu	6.44	7.45	6.72	6.87
Average Gas Volumetric Flow Rate:				
@ Flue Conditions, acfm	1,004,587	874,199	934,811	937,866
@ Standard Conditions, dscfm	582,401	518,205	557,493	552,700
Average Gas Temperature, °F	337.8	331.2	331.7	333.5
Average Gas Velocity, ft/sec	55.81	48.57	51.93	52.10
Flue Gas Moisture, percent by volume	9.91	8.64	8.02	8.86
Average Flue Pressure, in. Hg	29.09	29.09	29.09	
Barometric Pressure, in. Hg	29.31	29.31	29.31	
Average %CO_2 by volume, dry basis	13.0	13.0	13.0	13.0
Average %O_2 by volume, dry basis	6.0	6.0	6.0	6.0
% Excess Air	39.00	39.00	39.00	39.00
Dry Molecular Wt. of Gas, lb/lb-mole	30.320	30.320	30.320	
Gas Sample Volume, dscf	76.678	67.480	72.346	
Isokinetic Variance	100.6	99.5	99.2	

Laboratory Analysis can be found in Appendix F.

Table 3-6
COAL USAGE RESULTS

Test Run Number:	1	2	3	Average
Date	11/2/99	11/3/99	11/3/99	
Start Time	13:00	8:00	11:15	
End Time	15:15	10:10	13:25	
Coal Properties:				
Carbon, % dry	72.69	73.02	73.39	73.03
Hydrogen, % dry	4.67	4.60	4.49	4.59
Nitrogen, % dry	1.01	1.04	1.06	1.04
Sulfur, % dry	0.86	0.86	0.99	0.90
Ash, % dry	8.08	8.66	8.98	8.57
Oxygen, % dry (by difference)	12.69	11.82	11.09	11.87
Volatile, % dry	39.57	38.82	37.69	38.69
Moisture, %	22.69	22.74	21.52	22.32
Heat Content, Btu/lb dry basis	12494	12578	12632	12568
F_d Factor O_2 basis, dscf/10^6 Btu	9845	9832	9835	9838
F_c Factor CO_2 basis, scf/10^6 Btu	1868	1864	1865	1865
Chloride, ug/g dry	430.0	374.0	519.0	441.0
Mercury, ug/g dry	0.08	0.08	0.08	0.08
Coal Consumption:				
Total Raw Coal Input, ton/hr	101.32	99.34	104.19	
Total Raw Coal Input, Klbs/hr	202.64	198.68	208.38	203.23
Total Coal Input, lbs/hr dry	156661	153500	163537	157899
Total Mercury Available in Coal:				
Mercury, lbs/hr	0.01253	0.01228	0.01308	0.01263
Mercury, lbs/10^{12} Btu	6.40	6.36	6.33	6.37

Laboratory Analysis can be found in Appendix F.

4.0 SAMPLING AND ANALYTICAL PROCEDURES

4.1 Test Methods

4.1.1 Speciated Mercury Emissions

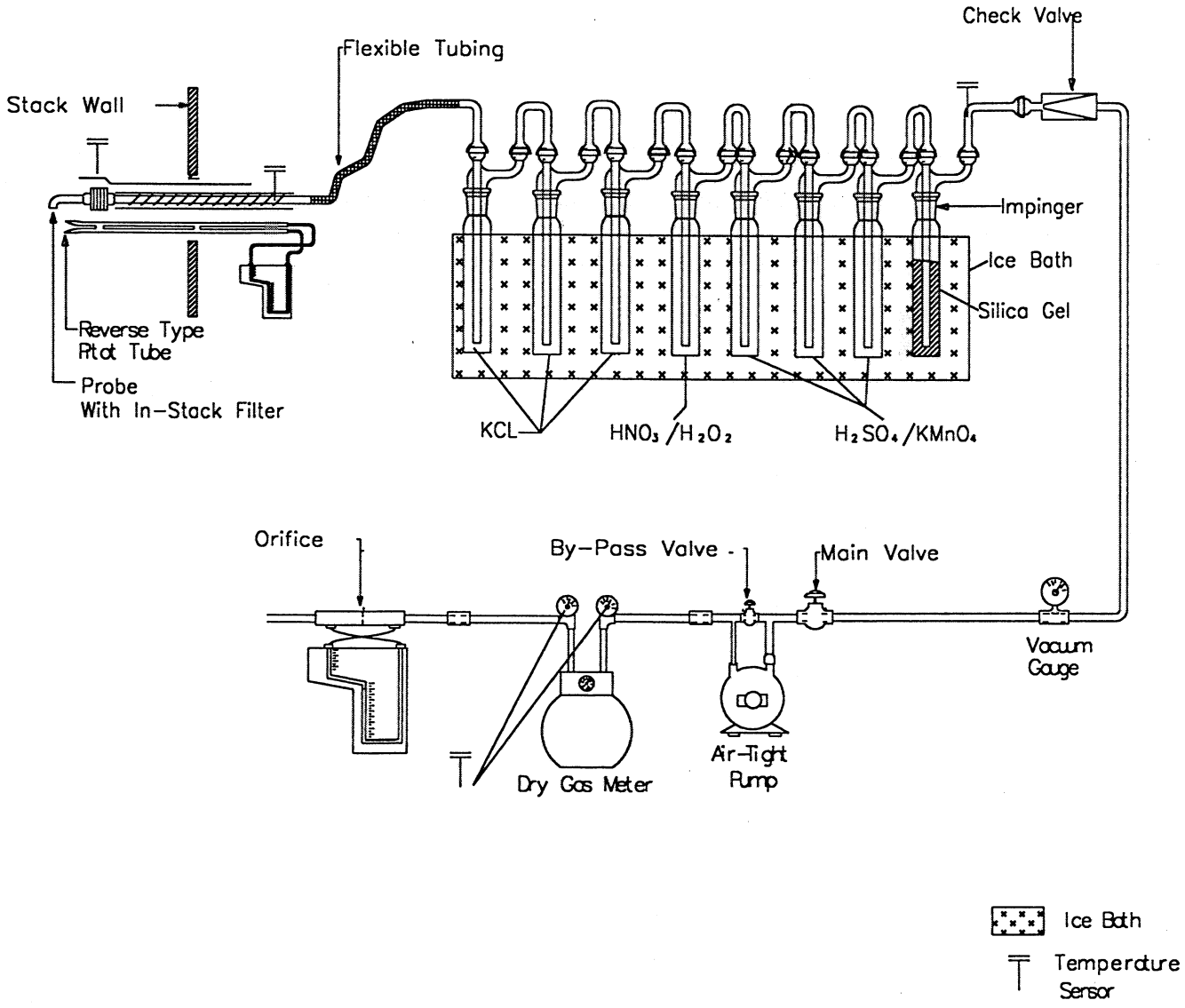
Speciated mercury emissions were determined via the draft "Standard Test Method for Elemental, Oxidized, Particle-Bound, and Total Mercury in Flue Gas Generated from Coal-Fired Stationary Sources (Ontario-Hydro Method)", dated May 12, 1999.

The in-stack filtration (Method 17) configuration was utilized at the inlet and outlet test locations. Figure 4-1 is the schematic of the Ontario-Hydro sampling train.

Figure 4-2 illustrates the sample recovery procedure. The analytical scheme was per Section 13.3 of the Ontario-Hydro Method.

Speciated Mercury Sampling Train Equipped with In-Stack Filter

Ontario Hydro Method



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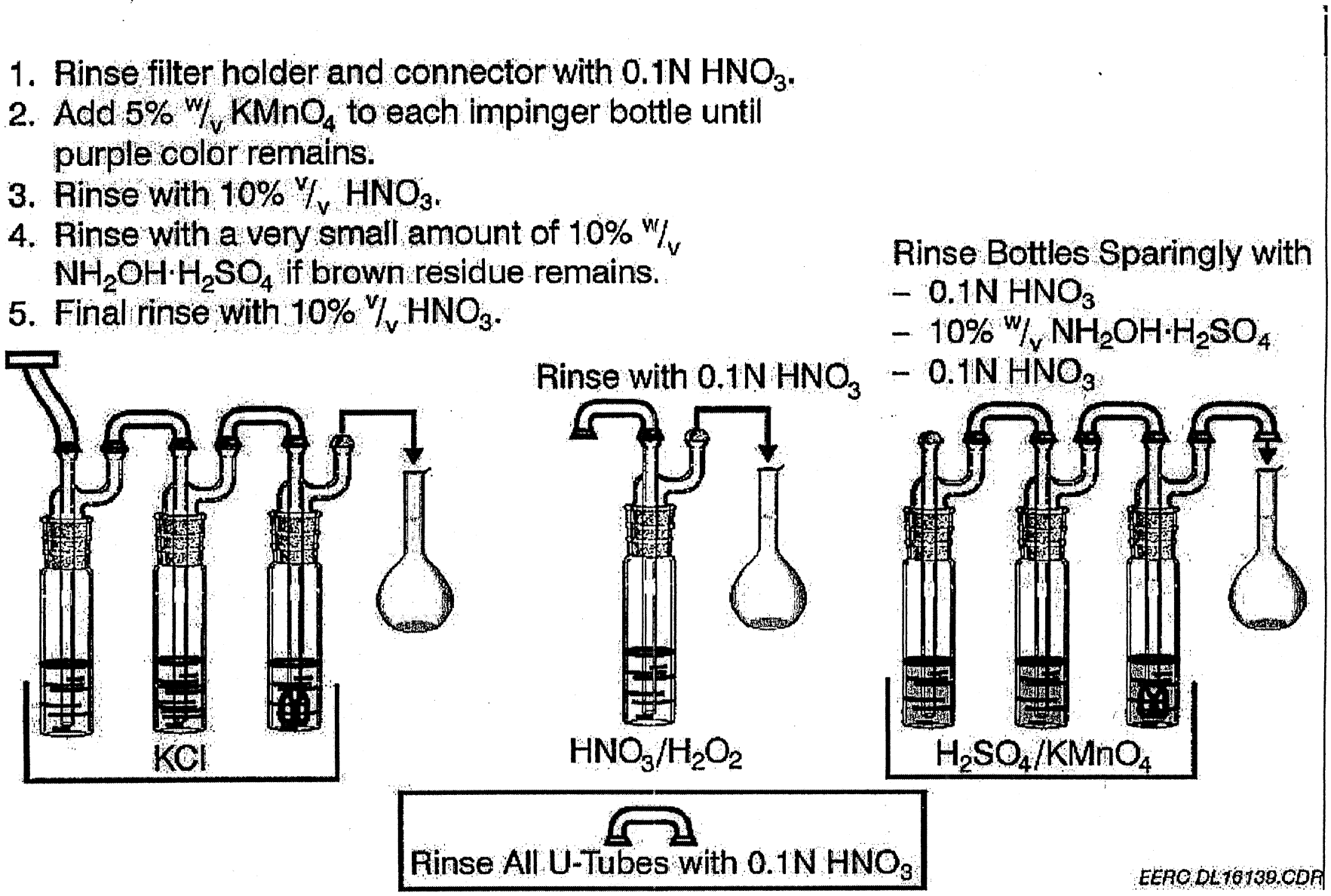

Figure 4-2: Sample Recovery Scheme for Ontario-Hydro Method Samples

4.1.2 Fuel Samples

Fuel samples were collected by composite sampling. Three samples were collected at equally spaced intervals during each speciated mercury sampling run. Each set of three samples was composited into a single sample for each sample run. Sample analysis was conducted according to the procedures of ASTM D3684 and ASTM D4208.

4.2 Procedures for Obtaining Process Data

Plant personnel were responsible for obtaining process-operating data. The process data presented in Table 3-6 was continuously monitored by the facility. Process data was averaged over the course of each sample run.

4.3 Sample Identification and Custody

The chain-of-custody for all samples obtained for analysis can be found in Appendix E.

5.0 INTERNAL QA/QC ACTIVITIES

All sampling, recovery and analytical procedures conform to those described in the site specific test plan. All resultant data was reviewed by the laboratory and Mostardi Platt per the requirements listed in the QAPP and were determined to be valid except where noted below.

5.1 QA/QC Problems

Reagent blanks are required to be less than ten times the detection limit or ten percent of the sample values found. All reagent blank values met this criteria.

The train blank value for the $KMnO_4/H_2SO_4$ impinger at the outlet, Sample ID #030, was more than 30% of the sample value obtained at this location for the $KMnO_4/H_2SO_4$ fraction for Sample ID #024. The test results for this sample location have been qualified per the QAPP.

5.2 QA Audits

5.2.1 Reagent Blanks

As required by the method, blanks were collected for all reagents utilized. The results of reagent blank analysis are presented in Table 5-1.

Table 5-1 REAGENT BLANK ANALYSIS				
Sample ID#	**Sample Fraction**	**Contents**	**Mercury (μg)**	**Detection Limit (μg)**
034	Front-half	0.1N HNO_3/Filter	< 0.002	0.002
035	1 N KCl	1 N KCl	0.004	0.003
036	HNO_3/H_2O_2	HNO_3/H_2O_2	< 0.002	0.002
037	$KMnO_4/H_2SO_4$	$KMnO_4/H_2SO_4$	0.004	0.003

5.2.2 Blank Trains

As required by the method, blank trains were collected at both the inlet and stack sampling locations. These trains were collected on November 2, 1999. The results of blank train analysis are presented in Table 5-2.

Table 5-2 BLANK TRAIN ANALYSIS				
Sample ID#	**Sample Fraction**	**Contents**	**Mercury (μg)**	**Detection Limit (μg)**
031, 032, 033	Front-half	Filter	< 0.021	0.021
025	KCl impingers	Impingers/rinse	0.482	0.03
028	KCl impingers	Impingers/rinse	0.370	0.03
026	HNO_3-H_2O_2 impingers	Impingers/rinse	0.124	0.04
029	HNO_3-H_2O_2 impingers	Impingers/rinse	< 0.04	0.04
027	$KMnO_4/H_2SO_4$ impingers	Impingers/rinse	0.246	0.03
030	$KMnO_4/H_2SO_4$ impingers	Impingers/rinse	1.86	0.03

5.2.3 Field Dry Test Meter Audit

The field dry test meter audit described in Section 4.4.1 of Method 5 was completed prior to the test. The results of the audit are presented in Appendix C.